

VITKOVSKIY, A.K.

Toward the sun. Vest.Vozd.Fl. no.1:5-9 Ja '61.

(MIRA 13:12)

1. Komandir korabliya "TU-114".
(Aeronautics—Flights)

VITKOVSKIY, Anatoliy Mikhaylovich [Vitkovs'kyi, A.M.]; CHAYEVSKAYA,
N.S. [Chaijevs'ka, N.S.], red.; MEYEROVICH, S.L., tekhn. red.

[Labor productivity is the main thing for the victory of communism] Produktyvnist' pratsi - holovne cilia peremohy kommunizmu. Kyiv, Derzhpolitydav URSR, 1962. 43 p. (Na doporohu vyvchaiuchym materialy XXII s'izdu KPRS) (MIRA 15:11)

1. Starshiy prepodavatel' Kiyevskogo instituta fizicheskoy kul'tury (for Vitkovskiy).

(Labor productivity)

39126
S/058/62/000/006/057/136
A061/A101

5.4400

AUTHORS: Vitovskiy, B., Tatarinova, L. V.

TITLE: Problem of the crystallization of "pure substances"

PERIODICAL: Referativnyy zhurnal, Fizika, no. 6, 1962, 9, abstract 6E75
(In collection: "Rost kristallov. T. 3". Moscow, AN SSSR, 1961,
247 - 253. Discuss., 501 - 502)

TEXT: Problems of diffusion and of its qualitative dependence on the surface state in the contact of two bodies are considered. The imprints produced by plane Pb-foil figures and by quartz crystals on glass surface are shown. It has been discovered that particles coating a photoemulsion surface which contains a latent image, induce a process of regression in it; thus, on photographs of negatives, the surface of which contained quartz slices and Al-foil figures, they produced clear sections on the exposed plate surface. The electron-diffraction figures from glass plates being in contact with a polished quartz surface corresponded to a substance with cubic lattice and $a = 5.68 \text{ \AA}$. In the case of Cu - glass contact, Cu_2O reflexes were detected, and $a = 4.26 \text{ \AA}$. The surface impurities

Card 1/2

S/058/62/000/006/057/136
A061/A101

Problem of the crystallization of "pure substances"

forming on the contact of two bodies may also occur in the crystallization of different substances.

I. Kamentsev

[Abstracter's note: Complete translation]

Card 2/2

KONSTANTINOV, A.R.; KISILENKO, A.A.; FIKUSH, N.V.; MIKMOVICH, L.A.;
BELOUSOV, V.V.; VITKOVSKIY, B.I.

Experimental study of methods of measuring liquid precipitation.
(MIRA 18:1)
Trudy UkrNIGMI no.41:163-185 '64.

VITKOVSKIY, B.I.; GOYSA, N.I.; KONSTANTINOV, A.R.; KUDINA, A.V.;
OLEYNIK, R.N.; SAKALI, L.I.

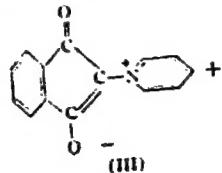
Meteorological conditions and heat balance of the underlying
surface during the work of the expeditions of the Ukrainian
Scientific Research Hydrometeorological Institute and the
Main Geophysical Observatory in the summer of 1960 and 1961.
Trudy UkrNIGMI no.35:3-17 '63. (MIRA 17:1)

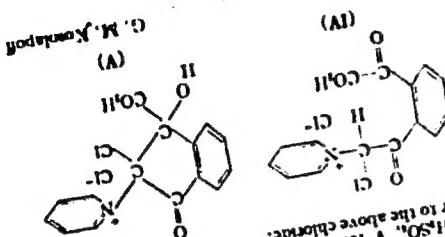
10
CA VITKOVSKIY, D.P.

Oxidative and oxidative hydrolytic reactions of organic molecules. XIII. Hydrolytic cleavage of 1-(3,4-hydroxy-1,4/3,4)-naphthoquinon-2-yl pyridinium betaine. D. P. Vitkovskii and M. M. Shmyakin. Zhur. Obshchey Khim. (J. Gen. Chem.) 21, 510 (1951); cf. C.A. 43, 7000g; 45: 7300. — Hydrolytic cleavage of the 1-(3,4)-hydroxy-1,4/3,4)-naphthoquinon-2-yl pyridinium betaine (I) on long boiling in aq. alk. soln. yields phthalic acid, pyridine, and 1-hydroxy-4-carboxyquinidine (II) (up to 18% in 1% NaOH), decp. 295-6°. The latter forms as a result of cleavage not only of the quinone but also of the pyridine rings, first forming α -C₆H₄(CO₂H)COCOCH₂NH₃⁺, which then under-

goes a tautemic rearrangement, yielding α -C₆H₄(CO₂H)-COOH(CO₂H)CH₂NH₃⁺, which then loses 2 H₂O to give the final product. II yields an incol. Ag salt and on dilution with Zn dust gives isoquinoline (picrate, m. 230-1°). Pyrolysis of II, Ag salt in a N atm. gave isocarbostyryl, m. 207-8°. Esterification of II with EtOH-H₂SO₄ gave the Ester, m. 226-7°. XIII. Hydrolytic cleavage of 1-(2-chloro-1,3,3,4-tetrahydro-1,3,4-triene-2-naphthyl)pyridinium chloride. Ibid. 547-58.

Chlorination of dry 1-(3,4)-hydroxy-1,4/3,4)-naphthoquinon-2-yl pyridinium betaine (I) in CHCl₃ with cooling gave 0.1% 1-(2-chloro-1,3,3,4-tetrahydro-1,3,4-triene-2-naphthyl)pyridinium chloride (II), darkening at 105°, does not m. 200°. On standing in H₂O it readily yields the betaine (III), m. 230-7° (from H₂O) (47% after 3 days). If the aq. mixt. is heated 20 min. to 95°-95% III is formed while 10% pyridine and 12% phthalic acid may be recovered. In very dil. NaOH, formation of III is instantaneous, as it is in soda, NH₄OH, or NaOAc solns. Oxidation of III with KMnO₄ gives phthalic acid and pyridine. A boiling aq. soln. of II,





VITKOVSKIY, D. P.

"Oxidative and oxidative-hydrolytic transformations. XIII. Hydrolytic fission of 2-chloro-2-pyridinium-1,2,3,4-tetrahydro-1,3,4,5-tetrone." by D. P. Vitkovskiy and M. M. Shewakin. (p.547)

SO: Journal of General Chemistry (Zhurnal Obshchei Khimii) 1951, Volume 21, No. 3

VITKOVSKIY, D. P.

USSR/Chemistry - Quinones

Jun 51

"Oxidative and Oxidative-Hydrolytic Transformations of Organic Molecules," D. P. Vitkovskiy, M. M. Shemyakin, Lab Org Chem, Inst Biol and Med Chem, Acad Med Sci USSR

"Zhur Obshch Khim" Vol XXI, No 6, pp 1033-1045

Substituted 3-hydrazoxy-1,4-naphthoquinones with OH group, Cl, or amino group in the 2-position can undergo single-type transformation in presence of oxidants and hydrolyzing media, in which the quinone ring is broken, while the substitute in the 2-position is split off. Final products are always

USSR/Chemistry - Quinones (Contd)

Jun 51

186r22

phthalic, phthalonic and phthalidic carboxylic acids. Reaction proceeds by way of formation of 1,2,3,4-tetraoxotetraline, which is then transformed into final acids.

186r22

VITKOVSKIY, D. P.

USSR/Chemistry - Biological

Sep 51

"Oxidation and Oxidative-Hydrolytic Conversions of Organic Molecules. **XIX.**
Relation Between the Degree of Oxidation of Carbocyclic Compounds and the Capacity
of Their Ring Groupings to Undergo Hydrolytic Splitting," M. M. Shemyakin, L. A. Shchukina,
Yu. B. Shvetsov, D. P. Vitkovskiy, A. S. Khokhlov, Lab Org Chem, Inst Biol and Med Chem,
Acad Med Sci USSR

"Zhur Obshch Khim" Vol XXI, No 9, pp 1667-1677

Clarified principles and nature of relation between deg of oxidation and capacity for
hydrolytic splitting. Showed expediency of use of concept of oxidative-hydrolytic
conversions in study of oxidation of carbocyclic and acyclic compds.

191T48

VITKOVSKI, D.P.

✓ Synthesis and properties of α -dichloroacetylaminob-
hydroxy- ρ -nitrophenone. B. M. Bandal, E. I. 62
Vinogradova, D. P. Vitkovskij, A. S. Khokhlov, Yu. B.
Shvetsov, and L. A. Slobukina. *Doklady Akad. Nauk
S.S.R.* 79, 601-3 (1951); *cf. C.A.* 45, 51454.— ρ -O₂N-
C₆H₄COCH₂NHCOCHCl₂ (3.3 g.), 13 g. AcONa, 23.6 ml.
31% aq. CH₃O₂, and 35 ml. EtOH were shaken at 32-5°
for 2.5 hrs., allowed to stand 15 hrs. at room temp., and
the ppt. filtered off and washed with four 10-ml. portions of
EtOH to give 31 g. ρ -O₂NCH₂COCH(CH₃OH)NHCOCH-
Cl₂ (II), m. 124-5° (from EtOH or C₆H₆). II + PhNH-
N₃ gave the phenyllhydrazone, m. 176-7°. Δ (OCH₃)
and II gave "DL-trans-1-(ρ -nitrophenyl)-2-(dichloro-
acetamido)-1,3-propanediol," m. 151-2°. Dehydration with
glacial AcOH gives 2-dichloromethyl-4-(ρ -nitrophenyl)-2-
oxazoline. Michael Dymicky

(5)

VITKOVSKIY, D. P.

"Oxidative and oxidative-hydrolytic transformations of organic molecules. XIX. Relation between the degree of oxidation of carbocyclic compounds and the susceptibility of their ring groups to hydrolytic cleavage." M. M. Shemyakin, L. A. Shchukina, Yu. B. Shvetsov, D. P. Vitkovskii and A. S. Khokhlov. (p. 1667)

SO: Journal of General Chemistry (Zhurnal Obshchey Khimii) 1951, Vol 21, No 9.

VITKOVSKIY, D. P.

Vitkovskii, D. P., Shemiakin, M. M. - "Oxidative and oxidative-hydrolytic transformations of organic molecules. 23. Mechanism of oxidative-reducing and hydrolytic transformations of 2-chloro-3-hydroxy-1,4-naphthoquinone." (p. 679)

SO: Journal of General Chemistry, (Zhurnal Obshchei Khimii), 1952, Vol. 22, No. 4

STERLIN, R.N. [translator]; KNUNYANTS, I.L., akademik, red.;
VITKOVSKIY, D.P., red.; RABINOVICH, F.V., red.; ZASUL'SKAYA,
V.F., tekhn.red.

[Modern experimental methods in organic chemistry] Sovremennoye
metody eksperimenta v organiceskoi khimii. Pod red. I.L.
Knunyantsa. Moskva, Gos.nauchno-tekhn.izd-vo khim.lit-ry, 1960.
627 p. (MIRA 14:1)

(Chemistry, Organic--Experiments)

VITKOVSKIY, E.Ya.; PAVLOV, E.A., red.; PITERMAN, Ye.L., red. izd-va.;
BARUCHINA, A.M., tekhn. red.

[Unit for building and maintaining single-lane ice roads for tractors
and automobiles] Agregat dlja ustroistva i soderzhanija odno-
koleinnykh traktorno-avtomobil'nykh ledianykh dorog; pavil'on
"Lesnaja promyshlennost' i lesnoe khoziaistvo" [Moskva] M-vo
lesnoi promyshl. SSSR [1957] 7 p. (MIRA 11:11)

1. Moscow. Vsesoyuznaya promyshlennaya vystavka.
(Roads, Ice)

AUTHORS: Vitkovskiy, M.N., Maslov, V.A. 32-24-4-20/67

TITLE: On Testing the Corrosion Resistivity of Aluminum in 98% Nitric Acid (Ob ispytaniyakh korrozionnoy stoykosti alyuminiya v 98%-noy azotnoy kisloty)

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol. 24, Nr 4, pp. 429-430 (USSR)

ABSTRACT: It is a disadvantage of the methods of investigation hitherto employed that they take from 100 to 200 hours. Experiments were carried out with boiling 98% nitric acid and with the aluminum types AB 2 and AD 1 in order to determine the velocity of corrosion. From results given in tables it may be seen that the corrosion velocity practically remained constant with time during 100 hours. This holds good for the two types of aluminum mentioned as well as for welding samples with 0.04-0.05% titanium. From the results obtained the conclusion is drawn that the period of investigation can be reduced to 50 hours, but that 25 hours e.g. might suffer. The interesting statement was made that if samples

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On Testing the Corrosion Resistivity of
Aluminum in 98% Nitric Acid

32-24-4-20/67

are treated with a solution of 10% nitric acid + 7 g/l sodium fluoride before the investigation, this leads to a noticeable reduction of corrosion velocity in the 98% boiling nitric acid. As this "passivation" decelerates the corrosion velocity of aluminum by four times its amount in the course of the following treatment in 98% nitric acid, this treatment before corrosion tests is not recommended. There are 5 tables.

ASSOCIATION: Sumskoy mashinostroitel'nyy zavod im. M.V. Frunze
(Sumy Machine Building Plant imeni M.V. Frunze)

1. Aluminum--Corrosion
2. Nitric acid--Corrosive effects
3. Corrosion research

Card 2/2

VITKOVSKIY, M. N.

USSR/Miscellaneous - Foundry processes

Card 1/1 : Pub. 61 - 19/23

Authors : Rybasenko, I. D., and Vitkovskiy, M. N.

Title : Strength of cast-iron in various sections of the casting

Periodical : Lit. proizv. 4, 29-30, July 1954

Abstract : Method of testing the yield strength of cast-iron in various parts of the casting is briefly described. The chemical composition of the samples, on which yield strength experiments were carried out, is shown in table. Graphs.

Institution : ...

Submitted : ...

"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001860120012-0

VITKOVSKY M. N.

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001860120012-0"

RYBASHEKO, I.D.; VITKOVSKIY, M.N.

Strength of iron cast in different thicknesses. Lit. proizv.
no. 4:29-30 Jl '54.
(Cast iron) (MLRA 7:7)

VITKOVSKIY, P.S.

For uninterrupted main line operation in cold weather conditions.
Vest.sviazi 15 no.2:22-23 P'55. (MLRA 8:3)

1. Nachal'nik Mordovskogo upravleniya svyazi.
(Telephone lines--Cold weather operation)

VITKOVSKIY, P.S.
USSR/ Electronics - Telephone communication

Card 1/1 Pub. 133 - 12/18

Authors : Vitkovskiy, P. S.

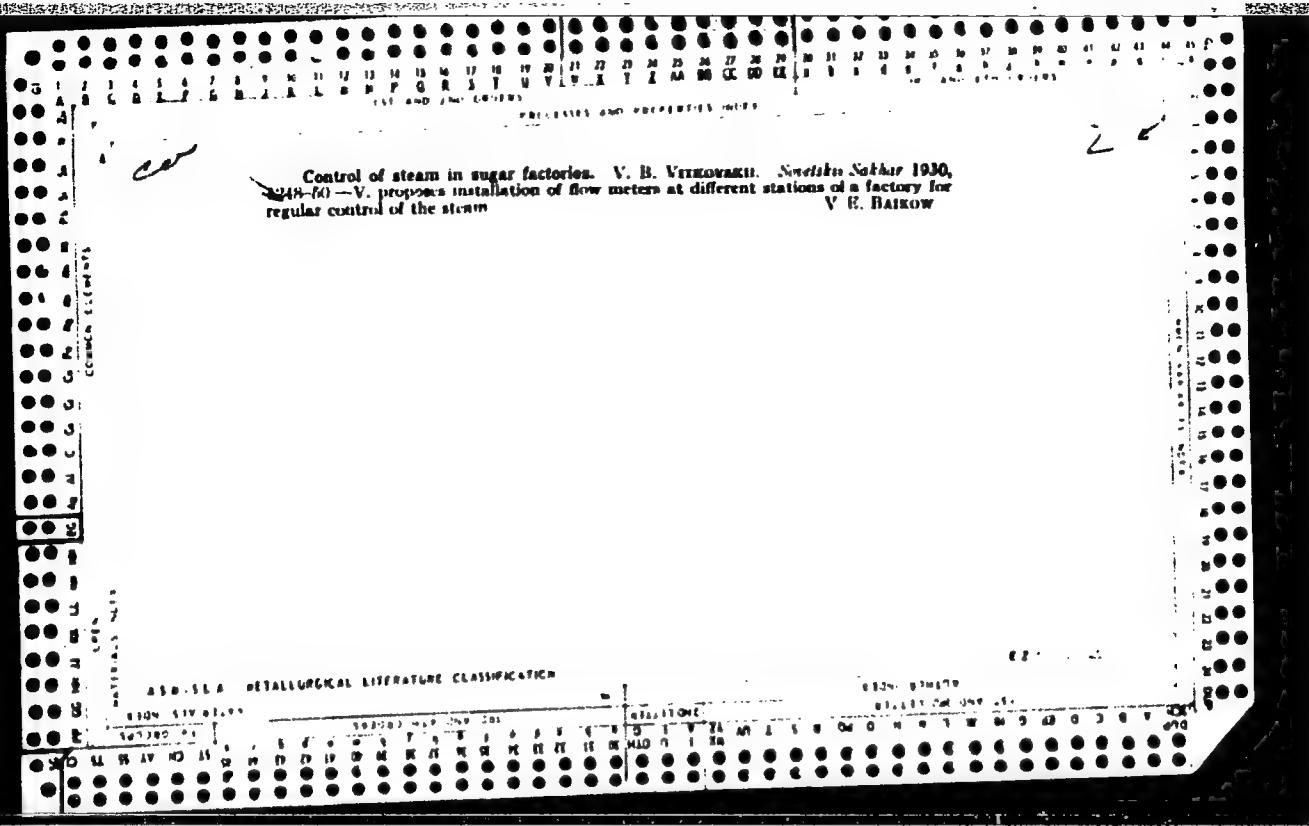
Title : For faultless performance of main communication lines in winter time

Periodical : Vest. svyazi 2, 22 - 23, Feb 1955

Abstract : Suggestions are made on how to maintain continuous operation of telephone and telegraph communication lines (overhead and underground) during the severe winter season in the USSR.

Institution:

Submitted:



VITKOVSKIY, M.N.; MASLOV, V.A.

Testing the corrosion resistance of aluminum to 98 nitric acid.
Zav.lab. 24 no.4:429-430 '58. (MIRA 11:4)

1. Sumskoy mashinostroitel'nyy zavod im. M.V. Frunze.
(Aluminum--Corrosion) (Nitric acid)

SLOMYANSKAYA, F.B., kandidat tekhnicheskikh nauk; DYATLOVA, V.N.; AFANAS'YEV, P.S.; YEGOROV, A.P.; VITKOVSKIY, M.N.; MISHIN, I.A.; MEDOVAR, B.I.; LANGER, N.A.; PAL'CHUK, N.Yu., kandidat tekhnicheskikh nauk; FRID, Ya.L.; LEVIN, I.A., kandidat tekhnicheskikh nauk.

Methods of testing stainless steels for susceptibility to intergranular corrosion. Zav.lab.21 no.11:1314-1340 '55. (MIRA 9:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy i konstrukterskiy institut khimicheskogo mashinostroyeniya (for Slemanskaya, Dyatleva). 2. Nauchal'nik TSentral'ney zavodskey laboratorii (for Afanas'yev). 3. Nauchal'nik laboratorii eksperimental'nogo zavoda khimicheskogo mashinostroyeniya. 4. Sumskey mashinostreitel'nyy zaved imeni M.V.Frunze (for Vitkovskiy, Mishin). 5. Institut elektrosvarki imeni Ye.O.Patona, Akademii nauk SSSR (for Medovar, Langer). 6. Moskovskoye vyssheye tekhnicheskoye uchilishche imeni N.E.Baumana (for Pal'chuk). 7. Zamestitel' nachal'nika TSentral'noy zavodskoy laboratorii zavoda "Serp i Molot" (for Frid).

(Steel, Stainless--Corrosion)

VITKOVSKIY, M.P. [Vitkovs'kyi, M.P.]; LUPKO, A.Ya., red.; NEMCHENKO, I.Yu.,
tekhn. red.

[Business accounting within individual production units of a col-
lective farm] Vnutrihospodars'kyi rozrakhunok u kolhospakh. Kyiv,
Derzh. vyd-vo sil's'kohospodars'koi lit-ry URSR, 1961. 179 p.
(MIRA 14:11)

(Ukraine--Collective farms--Finance)

KAVUN, Vasiliy Mikhaylovich. Prinimali uchastiye: BABSKIY, I.I.;
BOROVSKIY, V.A.; VITKOVSKIY, M.P.; ZIMOVETS, V.N.;
SEREDENKO, B.N.; PITUL'KO, V.Ye.; CHEPURNOV, I.A.;
BLAZHEVSKIY, V.K.; YAROPUD, V.N.; RYBAK, V.N.; KUZIK, G.I.;
ZADNEPRYANETS, G.V.; IVANOV, A.N., red.; BELOVA, N.N.,
tekhn. red.

[Efficient farm management] Ratsional'noe vedenie khozaiistva.
Moskva, Sel'khozizdat, 1963. 205 p. (MIRA 16:4)

1. Ukrainskiy nauchno-issledovatel'skiy institut ekonomiki i organizatsii sel'skogo khozyaystva (for Babskiy, Borovskiy, Vitkovskiy, Zimovets, Seredenko, Pitul'ko, Chepurnov).
2. Vinnitskaya gosudarstvennaya sel'skokhozyaystvennaya opty-naya stantsiya (for Blazhevskiy, Yaropud).
3. Ukrainskiy nauchno-issledovatel'skiy institut zemledeliya (for Rybak).
4. Sekretar' partiynoy organizatsii kolkhoza imeni XXII s"yezda Kommunisticheskoy partii Sovetskogo Soyuza (for Kuzik).
5. Glavnyy agronom kolkhoza imeni XXII s"yezda Kommunisticheskoy partii Sovetskogo Soyuza (for Zadnepryanets).

(Collective farms—Management)

VITKOVSKIY O. V.

AUTHOR: I.r.

10-58-3-27/29

TITLE: **Journal of Abstracts "Geografiya" (Referativnyy zhurnal "Geografiya")**PERIODICAL: **Izvestiya Akademii Nauk SSSR, Seriya Geograficheskaya, 1958, Nr 3, page 158 (USSR)**ABSTRACT: The journal "Geografiya" is going to publish special booklets describing different parts of the USSR, Canada and Japan. Another publication will deal with the shipbuilding areas of the world. In 1956/57 the journal had already published the following booklets: "Ferrous Metallurgy in the Leading Capitalistic Countries and Their Raw Material Resources" by M.S. Rozin and Yu.V. Medvedkov; "Power Engineering in Capitalistic Countries" by O.V. Vitkovskiy; "Economic Resources in India and Their Utilization" by F.D. Yaroshenko; and others.

AVAILABLE: Library of Congress

Card 1/1

1. Periodicals - "Geografiya" - USSR

VITKOVSKIY, O.V., kand. geogr. nauk, red.; MEDVEDKA, Yu.V., kand. geogr. nauk, red.; SAVIN, M.A., kand. biol. nauk —; SAMYLINA, S.I., tekhn. red.

[Collection of articles on geography] Geograficheskii sbornik. Moskva, Proizvodstvenno-izdatel'skii kombinat VINITI, 1963. 242 p. (MIRA 16:4)

1. Akademiya nauk SSSR. Institut nauchnoy informatsii.
(Geography)

VITKOVSKIY, O.V., kand. geogr. nauk, red.; MEDVEDKOV, Yu.V., kand. geogr. nauk, red.; SAVIN, M.A., kand. biol. nauk, red.; SAMYLINA, S.I., tekhn. red.

[Collection of articles on geography] Geograficheskii sbornik. Moskva, Proizvodstvenno-izdatel'skii kombinat VINITI, 1963. 242 p. (MIRA 16:4)

1. Akademiya nauk SSSR, Institut nauchnoy informatsii.
(Geography)

VITKOVSKIY, O.Ye.

Using infrared radiation burners to dry cotton wool. Gaz. prom. 8
no.8:11-13 '63. (MIRA 17:11)

ACCESSION NR AT3013129

8/2589/63/000/072/0094/0100

AUTHOR Vitkovskiy, V. F., Sokolova, Ye. Ya.

TITLE Electronic type Eg-1 gaussmeter based on the use of the Hall effect

SOURCE USSR. Komitet standartov, mer i izmeritel'nykh priborov. Trudy* institutov Komiteta, no. 72, 1963, 94-100

TOPIC TAGS gaussmeter, fluxmeter, electronic fluxmeter, Hall effect fluxmeter, Hall effect pickup, n type germanium

ABSTRACT The new fluxmeter was developed in connection with the creation of new permanent-magnet alloys of high coercivity (to 400 kOe/m). The instrument combines a Hall-effect pickup (in the form of a movable probe) with electronic circuitry, and is capable of measuring magnetic induction in the range from 0.01 to 2.0 Wb/m² in small gaps (down to 3 mm), and to plot the magnetic configuration. The advantages claimed for the method are direct reading and the use of a phase discriminator which permits measurements to be made at arbitrary polarity. New circuits are used in the instrument to com-

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ACCESSION NR AT3013129

pensate for the temperature instability of the pickup balance and for equalization of the pickup characteristics in strong magnetic fields. The pickup material is n-type germanium measuring 3 x 5 x 0.4 mm. The various possible errors are analyzed. Orig. art. has 6 figures, and 3 formulas.

ASSOCIATION VNIIM

SUBMITTED 23Jun62

DATE ACQ 28Oct63

ENCL 01

SUB CODE MA, ML

NO/REF Sov 001

OTHER 001

Card 2/32

VITKOVSKIY V.F.; SOKOLOVA, Ye.A.

Electronic EG-1 type gauss meter utilizing the Hall effect. Trudy
inst.Kom.stand., mer i izm.prib. no.72:94-100 '63. (MIRA 16:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut metrologii imeni
Mendeleyeva.

(Magnetometer)

ACC NR: AR6028417

SOURCE CODE: UR/0196/66/000/005/B002/B003

AUTHOR: Vitkovskiy, V. F.

TITLE: Milliteslameter with Hall generator for measuring magnetic fields in testing permanent magnets

SOURCE: Ref. zh. Elektrotehnika i energetika, Abs. 5B9

REF SOURCE: Tr. in-tov Gos. kom-ta standartov, mer i izmerit. priborov SSSR, vyp. 79(139), 1965, 98-100

TOPIC TAGS: magnetic field ~~strength~~^{intensity}, permanent magnet material, teslameter

ABSTRACT: An instrument is described which is used for measuring the magnetic field strength at the surface of hard magnetic specimens. An InAs Hall generator connected to a M-95 microammeter is used as a field-sensitive element. The same microammeter is also used in adjusting the operating current of the generator. The measuring ranges are: 15, 75, 150 milliteslas. No temperature stabilization of the generator is employed; however, a 200-ohm ballast resistor is inserted into the current circuit of the generator for blunting the effect of temperature on instrument readings. The measurement error in all ranges does not exceed $\pm 1\%$ at $20 \pm 5^\circ\text{C}$. Two figures. Bibliography of 6 titles. [VNIIM] I.Shcherbinin [Translation of abstract]

SUB CODE: 09, 11

Card 1/1

UDC: 621.317.443+621.3.032

Vitkovskiy, V.G.

Category: USSR/Analytical Chemistry - Analysis of organic substances.

G-3

Abs Jour: Referat Zhur-Khimiya, No 9, 1957, 31057

Author : Zuyev N. Ye., Vitkovskiy V.G.

Inst : Siberian Physico-Technological Institute at the Tomsk University

Title : Concerning the Possibility of Quantitative Spectral Analysis of Crude Benzene for Benzene, Toluene and Xylene

Orig Pub: Tr. Sibirs. fiz.-tekhn. in-ta pri Tomskom un-te, 1956, No 35, 127-129

Abstract: To eliminate the interfering effect of admixtures that boil at higher temperature than the principal components, the samples are evaporated and vapor absorption bands are measured at 2670 Å for toluene and at 2720 Å for xylene. The light source is a hydrogen tube and the spectra are photographed on a small spectrograph. Calibration graphs are plotted in Δ S-C coordinates. For a simultaneous determination of all three components the length of the cell must be not less than 15-20 cm.

Card : 1/1

-3-

VITKOVSKIY, V.G.; GRANOVSKAYA, I.E., red.; GROMOV, A.S., tekhn. red.

[Storage of apples and grapes] Khrarenie iablok i vinograda.
Moskva, Gostorgizdat, 1961. 34 p. (MIRA 15:10)
(Apple--Storage) (Grapes--Storage)

VITKOVSKIY, V.I.

Determining the salt content of commercial petroleum. Neft.khoz.
38 no.5:59-60 My '60. (MIRA 13:8)
(Petroleum--Analysis)
(Salts)

VITKOVSKIY, V.L.

Annual stage development of flower and leaf buds in fruit-
and berry-bearing plants. Dokl. AN SSSR 119 no.1:174-177 Mr
'58. (MIRA 11:4)

1. Predstavлено академиком А.Л. Курсановым.
(Plants, Flowering of) (Buds) (Fruit)

SOV-26-58-11-36/49

AUTHOR: Vitkovskiy, V.L., Candidate of Biological Sciences

TITLE: Prolification in Calendula officinalis L. (Prolifikatsiya u nogotkov)

PERIODICAL: Priroda, 1958, Nr 11, pp 113 - 114 (USSR)

ABSTRACT: The author thinks that every new instance of proliferation discovered by a researcher or casual observer is worth recording, since enough scientific material has not yet been collected on this subject. The author noticed proliferation in Calendula officinalis L. at an experimental plant cultivation station near Murmansk in 1956. From an inflorescence of the plant, another new inflorescence had formed. It was found that this new inflorescence came from a bud located in the axil of the sepal of the mother-inflorescence. There is 1 photo.

ASSOCIATION: Polyarnaya optytnaya stantsiya VIR'a /Murmanskaya oblast', st. Khibiny (VIR's Polar Experimental Station /Murmansk Oblast', Khibiny station)

i. Plants--Physiology

Card 1/1

AUTHOR: Vitkovskiy, V. L. 20-119-4-53/60

TITLE: The Ways of Fasciation Development in Fruit and Berry Plants (Puti vozniknoveniya fastsiatsiy u plodovo-yagodnykh rasteniy)

PERIODICAL: Doklady Akademii Nauk SSSR, 1958, Vol. 119, Nr 4, pp. 816-818 (USSR)

ABSTRACT: As an introduction, the history of the explanation of this phenomenon (references 1, 2) and its mechanism is demonstrated. In the course of his five years of investigating, the author succeeded in finding another way of fasciation formation, which escaped the cited authors. Different from M. T. Kokonov (reference 2), the author did not investigate the life-cycle of the sleeping accessory buds, but of the main buds of the eye. He gives the differences between these 2 mentioned bud sorts. His investigations of the axillary buds of the black currant (ribes nigrum) (figure 1), gooseberry (ribes grossularia), apple-tree (pirus malus), pear-tree (pirus communis), and of others showed that in the axil

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Berry-Plants

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of each primordial leaf is contained a socalled secondary (different from the primary-central) growing point, or cone respectively. The secondary cones are formed for about 8 - 10 months earlier than the growing cones of the sleeping accessory buds of the eye. These latter buds practically are hardly exposed to low temperatures, or only for a short time. Out of them shoot sprouts, which resemble seedlings. In connection with this latter phenomenon, Kokonov observed the fasciation only of vegetative sprouts. The fasciation can form in a fruit sprout only in the case, when it shoots out of a main axillary bud. The fasciation is a result of the adnation of a central vegetative cone, which is differentiated into flowers, with one or several side cones, which, because of particular, complex environmental conditions, have passed their development stage quickly and therefore also are capable of differentiating into flowers. In 1956 the author observed at Khibiny (Polar Experimental Station of

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the All-Union Plant Growing Institute, District of Murmansk (Polyarnaya opytnaya stantsiya Vsesoyuznogo instituta rasteniyevodstva) fasciations of West-European (zapadno-evropeyskiye) black currants, which are not accustomed to polar conditions. By this 1/3 to 1/2 of the yearly sprouts freeze every year. As a sequence of this, from the secondary growing cones of the main axillary bud, new sprouts shoot again. Due to the combination of the environmental conditions and the presence of plastic substances,³ and more substitute sprouts shoot out of it. In the case of simultaneous growth, these sprouts can become adnate with each other, which also was observed. Subsequently the probable mechanism in dependence on the temperature course is described. There are 2 figures and 3 Soviet references.

PRESENTED: October 21, 1957, by A. L. Kursanov, Member, Academy of Sciences, USSR

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The Ways of Fasciation in Fruit- and
Berry-Plants

20-119-4-53/60

SUBMITTED: July 31, 1957

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VITKOVSKIY, V.L.

Shoot fasciation in Syringa josikaea Jacq. *Pot. zhur.* 44 no.4:505-506
Ap '59. (MIRA 12:10)

1. Polyarnaya optytnaya stantsiya Vsesoyuznogo instituta rasteniyevodstva,
Khibiny. (Lilacs) (Abnormalities (Plants))

VITKOVSKIY, V.L.

~~Effect of a short day on the formation of generative organs in the Igarka form of the Siberian subspecies of black currants.~~
Fiziol.rast. 6 no.3:367-369 My-Je '59. (MIRA 12:8)

1. Polar experimental station of All-Union Institute of Plant Growing, Khibiny, Murmansk Region.
(Photoperiodism) (Murmansk Province--Currants)
(Plants, Flowering of)

VITKOVSKIY, V.L., kand. biol. nauk.

Proliferation in marigolds. Priroda 47 no.11:113-114 N '58.
(MIRA 11:12)

1. Polyarnaya optychnaya stantsiya Vsesoyuznogo instituta rasteniyevodstva,
Murmanskaya oblast', stantsiya Khibiny.
(Proliferation) (Marigold)

37(4), 30(1)

SCV/20-120-1-55/62

AUTHOR: Vitkovskij, V. L.

TITLE: The Effect of Reduced and Increased Temperature in Autumn and Winter on the State of Buds in Black Currant (Vliyaniye poni-zhennoy i povyshennoy temperatury v osenne-zimnaya vremya na sostoyaniye pochek chernoy smorodiny)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 126, Nr 4, pp 890 - 893 (USSR)

ABSTRACT: It was ascertained (Ref 1) that in various fruit-trees the "blossom" buds degenerate at an increased (room-)temperature. This too much generalized and limited opinion leads to a not quite correct idea on the actual development of the "blossom" buds. Different fruit plants have, in fact, different types of buds. In this connection, the author investigated, in 1956-57, the course of development of the buds mentioned in the title at the Polyarnaya optytnaya stantsiya of the VIR (see Association). During the time of bud swelling (mid-May), 2-year old plants of the Pechora sample of the European form (Ref 2) were transplanted into cases. They developed well. On Sep 4, Oct 4, Nov 9 and Nov 24, 1 case each was placed into a room

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The Effect of Reduced and Increased Temperature in Autumn and Winter on the State of Buds in Black Currant 367/20-126-1-56/62

(1st, 2nd, 3rd, and 4th variant, respectively). The plants remained there until June-July 1957. The 5th case remained as a control under natural conditions. The placing of cases at different points of time had the object to clarify what effect the increased temperature has on the state of buds depending on the duration of the preceding surrounding conditions in autumn. Generative - vegetative buds. The parts of the blossom buds started degenerating after about 65-85 days. Full degeneration took place 100-140 days after placing the plants into the room in autumn. This process develops more rapidly at plants introduced earlier. In spite of full blossom-bud degeneration, the buds maintained their viability for about 3-4 months since there were secondary growth cones (konasy narastaniya) in existence. The latter keep on living for about 150-200 days at an increased temperature. Vegetative buds. The following kinds have to be distinguished: a) terminal buds of the annual shoots; b) lateral buds of the lower part (younger stage) of the shrub; and c) the so-called sleeping buds. All these buds have normally no generative organs. It was ascertained that the central growth

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The Effect of Reduced and Increased Temperature in SOV/20-126-4-56/52
Autumn and Winter on the State of Buds in Black Currant

cones of the vegetative buds, like the cones of the generative-vegetative buds, require the action of low temperatures in autumn-winter. In the area of Murmansk, the duration of such action amounts to 80 days for the black currant. This period lasts even longer for the generative-vegetative, as well as for the lateral buds of the lower part of the shrub, and for the "sleeping" buds. There are 1 figure and 5 Soviet references.

ASSOCIATION: Polyarnaya opytnaya stantsiya Vsesoyuznogo instituta rasteniyevodstva st. Khibiny (Polar Experimental Station of the All-Union Institute of Plant Cultivation, Khibiny Station)

PRESENTED: February 14, 1959, by A. L. Kursanov, Academician

SUBMITTED: February 13, 1959

Card 3/3

AUTHOR:

Vitkovskiy, V. L.

20-119-1-48/52

TITLE:

On the Problem of the Annual Phase Development of the
Flower-Leaf-Buds in Fruit and Berry Plants (K vopros
o yezhegodnom stadiynom razvitiu tsvetkovo-listovykh
pochek u plodovykh i yagodnykh kul'tur)

PERIODICAL:

Doklady Akademii Nauk SSSR, 1958, Vol. 119, Nr 1,
pp. 174-177 (USSR)

ABSTRACT:

In several works (References 1-3) on the treelike plants it was stated that these plants just as the multiannual herbous plants every year pass through different stages of development, but in a more complicated form. According to reference 1 trees and shrubs are supposed to have 2 cycles of development: a general and an annual one. The former comprises all stages of development from germination until aging and death. The annual cycle is observed in every annual sprout which develops from a vegetative bud of growth. In every stage a woody plant needs special environmental conditions. One of these conditions is the annual need (to one or the other

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On the Problem of the Annual Phase Development
of the Flower-Leaf-Buds in Fruit and Berry Plants

20-119-1-48/52

degree) lower temperatures. In the relevant papers the fact of this requirement is only written down for the example of the bud; the buds are considered as a whole. Only L. I. Sergeyev (Reference 2) investigated the individual stages of development of the fruit plants in connection with the inner structure of their buds. He found that during winter at lower temperatures the flower-elements are normally developed, whereas at artificially created higher temperatures (15-20°C) they degenerate. It is true that numerous cases of the blooming of this year's flower-buds are known, which were not exposed to the influence of the winter's cold (Reference 5). Sergeyev attempts to explain the second flowering in fall by the aging of the flower buds (Reference 2). The author here proved the error of this conception. Sergeyev only investigated a part of the bud and did not disclose the entire annual cycle of the flower-leaf-buds. The author's investigations showed that these buds in: apple-tree (Pyrus malus), pear-tree (Pyrus communis), white, red and black currants (Ribes rubra and nigra), gooseberries

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Flower-Leaf-Buds in Fruit and Berry Plants

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(Ribes grossularia), mountain ash (Sorbus aucuparia), hawthorn (Crataegus oxyacantha), bird cherry (Prunus padus) and lilac (Syringa vulgaris) beside a central (primary) cone of growth also possess so-called secondary cones of growth (Figure 1). It is known that the leaf-flower-buds on annual shoots and fruit shoots are formed during their growth, but the process of bud-formation is somewhat different in both (Figure 1). The annual shoots in spring-summer sprout forth from the tips of the (growth-)buds of the shoots of last year. The leaves primordium form in the terminal bud due to the division of cells of the cone of growth. Small processes are formed in the axillae of these leaves. From these the side- (flower-leaf)-buds develop, the primary process (cone of growth) in every bud having a central position. In summer-fall the cone of growth differentiates in blooms. The author's studies showed that the secondary cones of growth in the year they were formed are not differentiated in blooms. They only become somewhat larger in fall and

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On the Problem of the Annual Phase Development of the
Flower-Leaf-Buds in Fruit and Berry Plants

20-119-1-48/52

winter. Due to this development of the secondary cones of growth in spring-summer either a so-called substitute shoot with new side-buds or only a fruit-shoot bud can form. Perhaps some qualitative changes occur during the formation of secondary cones in the flower-leafbuds and inversely, in the formation of central cones from the cone of a bud of growth these changes do not occur. The low temperatures by the author's opinion are above all necessary for the normal development of the secondary cones of growth. Otherwise the plant cannot form any flower-leaf-buds. From the standpoint of what has been said the nature of the second ('summer-fall) flowering is easy to explain and here no aging of the flower-buds in contrast to (Reference 2) occurs. The author thinks that the period of rest of the leaf-flower-buds is to be considered a period during which the secondary cones pass through the stage of lower temperatures. There are 1 figure and 11 references, all of which are Soviet.

PRESENTED: October 21, 1957, by A. L. Kursanov, Member of Academy of Sciences

SUBMITTED: July 31, 1957

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VITKOVSKIY, V.L.

Phasic development of buds of woody plants [with summary in English].
Fiziol. rast. 10 no.2:148-158 Mr-Ap '63. (MIRA 16:5)

1. All-Union Scientific Research Institutes of Plant Growing,
Leningrad.

(Buds) (Woody plants)

Country : USSR
Category: Cultivated Plants. Fruits. Berries.

M

Abs Jour: RZhBiol., No 22, 1958, No 100476

Author : Vitkovskiy, V.L.

Inst : -

Title : Differentiation of the Vegetative Cones and
Development of Flower Parts in Mixed Currant Buds.

Orig Pub: Tr. po prikl. botan., genet. i selektsii, 1957,
30, No 3, 248-252

Abstract: A study of the differentiation in the buds of
different varieties of black, red, and white
currant was carried out at the "Krasnyy Pakhar'"
Experimental Base of the All-Union Institute
of Plant Cultivation in Leningradskaya Oblast'.

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Country : USSR

Category: Cultivated Plants. Fruits. Berries.

X

Abs Jour: RZhBiol., No 22, 1958, No 100476

The buds were taken from on-year shoots of the 4 year old branches. Examination of longitudinal cuts under microscope was conducted from the 15th of July 1953 to the 25th of May 1954 at intervals of 7-10 days, and in winter once a month. 6 stages of the differentiation of the flower parts in the mixed current buds are described. The sequence of the differentiation of vegetative cones and of the development of flower parts in the mixed buds of black, red, and white currant is fairly identical. However, the picture of the progress of this process in them is different. The entire period from the beginning of

Card : 2/3

M-179

Country : USSR
Category: Cultivated Plants. Fruits. Berries.

M

Abs Jour: RZhBiol., No 22, 1958, No 100476

the differentiation in the vegetative cones of mixed buds until the complete formation of all parts of the flowers equals 288-293 days in the black currant varieties, 290-304 in red currant, and in the white - 285 days (according to the first, lower flowers). Differentiation begins earlier in early varieties, then almost simultaneously in the intermediate and late ones. In red currant, differentiation begins earlier than in the black and white. -- Ye. V. Kolesnikov

Card : 3/3

USSR / Cultivated Plants. Fruits, Berries.

M-7

Abs Jour : Ref Zhur - Biologiya, No 13, 1958, No. 5876]

Author : Vit'kovskiy, V. L.
Inst : Arctic Experimental Station
Title : Black Currant of the Primorskiy Champion Variety in Transarctica

Orig Pub : Sad i ogorod, 1957, No 6, 56-57

Abstract : This variety has been growing at the Arctic experimental station (Khibiny, Murmansk oblast) since 1938 and it has adapted itself to the continuous summer day. The average yield for the last 5 years has been 2 kg per bush.

Card 1/1

152

1. COUNTRY: USSR
2. SUBJECT: cultivated plants, fruits, berries, nuts, tea,

3. SOURCE: Leb. Zem. -Slobozhiye, No. 5, 1959, No. 10422

4. Author: Vitkovskiy, V. I.
5. Pub. : All-Union Inst. of Plant Cultivation
6. Title: Berry Cultures at Kola Peninsula.

7. DATA, PUB.: Ssrd i cgorod, 1958, No.6, 54-37

8. ABSTRACT: The studies are reported on which were made by the Polar Experiment Station of the All-Union Institute of Plant Cultivation at the Khibiny Station in Murmanskaya Oblast, starting in 1923. The best black currant was Igorskaya black currant among the red forms. From Kola were Kandalaksha and Verzuga. The best raspberry varieties are Novost' Kuz'mina, Sosyanets Spirina, Marlboro and the local forms Khibinskaya and Kandalakshskaya.

9. CARD: 1/2

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VITKOVSKIY, V.L.

Structure and life cycle of buds in seedlings and young
plants grown from cuttings of the gooseberry (*Grossularia*
Mill.). Bot. zhur. 48 no.5:713-720 My '63.

(MIRA 17:1)

1. Vsesoyuznyy institut rasteniyevodstva, Leningrad.

VITKOVSKIY, V.L., kand. biol. nauk

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Differentiation of growing points and development of floral elements
in mixed currant buds. Trudy po prikl. bot., gen. i sel. 30
no. 3:248-252 '57. (MIRA 11:7)

(Buds)
(Currants)

VITKOVSKIY, V.L.

Development of floral elements in Grossularia Mill. Bot. zhur. 43
no. 2:277-283 F '58. (MIRA 11:5)

1. Polyarnaya optytnaya stantsiya Vsesoyuznogo instituta rasteniyevod-
stva, Khibiny. (Gooseberries) (Inflorescence)

VITKOVSKIY, V. L.

1383 Stroyeniye i zhiznennyi tsikl rostovykh i sme shannykh pochek kryzhovnika V svyazi S urozhaynost'yu. L. 1954. 18 s. 20 sm. (Vsesoyuz ordona Lenina akad. s.-Kh. nauk im. V. I. Lenina Vsesoyuz. in-t rasteniyevodstva). 100 ekz. B. ts. 2(54-52842)

SO: Knizhaya Letopis', Vol. 1, 1955

VITKOVSKIY, V. I.

"The Structure and Life Cycle of Normal and Hybrid Gooseberry Buds in Relation to Yield." Cand Biol Sci, All-Union Inst of Plant Growing, all-Union Order of Lenin Acad of Agricultural Sci imeni V. I. Lenin, Leningrad, 1954. (KL, No 1, Jan55)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (12)

SO: SUM No. 556, 24 Jun 55

VITKOVSKIY, V.I.

Growing points of the buds of woody plants. Bot. zhur. 49
no.9:1288-1292 S '64. (MIF A 17.12)

1. Vsesoyuznyy institut rasteniyevodstva, Leningrad.

VITKOVSKIY, V.L.

New bud formations in black currants. Bot.zhur. 47 no.3:394-398
Mr '62. (MIRA 15:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut rasteniyevodstva,
Leningrad. (Currants) (Abnormalities (Plant))

VITKOVSKIY, V.V.

Gramp for loading and unloading materials from covered cars.
[Suggested by V.V.Vitkovskii]. Rats. i izobr. predl. v stroi.
no. 448-49 '57. (MIRA 11:8)
(Loading and unloading)

SMIRNOV, V.S.; TRON', A.S.; ATRILANDKOV, A.A.; VNIORSKIY, Yu.V.; N.I. NIKONOV,
N.D.

Effect of vacuum rolling on the structure and gas content of
titanium and molybdenum. Trudy IPI no.238:90-94 '64.
(USSR 17:11)

PARFENENKO, L.S., inzh.; VITKOVSKIY, Yu.I., inzh.

Borehole diameters and the blasting of borehole charges during
the mining of horizontal workings. Shakht. stroi. 8 no.4:18
Ap'64 (MIRA 17z?)

1. Krivorozhskiy filial Vsesoyuznogo nauchno-issledovatel'skogo
instituta organizatsii i mekhanizatsii shakhtnogo stroytel'stva.

PARFENENKO, I.S., gornyy inzh.; VITKOVSKIY, Yu.I., gornyy inzh.;
YAROKHNO, M.S., gornyy inzh.

Electric blasting of boreholes in the making of horizontal
workings. Gor. zhur. no.9;71 S '64. (MER 17:12)

1. Krivorozhskiy filial Vsesoyuznogo nauchno-issledovatel'skogo
instituta organizatsii i mekhanizatsii shakhtnogo stroitel'stva.

VITKOVSKY

POLAND/Laboratory Equipment.

F.

Abs Jour : Ref Zhur - Khimiya, No 16, 1958, 53577

Author : Vitkovsky

Inst :

Title : A General Phenomenological Theory Concerning the
Electrothermodiffusion in Liquids.

Orig Pub : Roczn. Chem., 1957, 31, No 2, 637-656

Abstract : In conducting the analysis of a diffusion-conventional process, the previously described method for gases was utilized (Furry, W.H., et al, Phys. Rev., 1939, 55, 1083). A geometrical system of cylindrical coordinates was examined; a solution or a mixture of two liquids; capillaries (K) with a height much greater than their radius, and having a much smaller working volume than the reserve capacity. Equations were obtained for: the electrode potential gradients, the temperature, the change in the reserve vessels due to the size of the

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POLAND/Laboratory Equipment.

F.

Abs Jour : Ref Zhur - Khimiya, No 16, 1958, 53577

equipment, the separation duration, the applied current, and the nature of the solution undergoing the separation. It was proven that the present theory of electrothermo-diffusion separation for a small radius K and the initial separation intervals is a particular case from the derived equations. The derived equations indicate the existence of a maximum magnitude for the K radius (the rest of the parameters being constant), at which the separation is at its maximum.

Card 2/2

EXCERPTA MEDICA Sec. 7 Vol. 9/8 Aug 55

Vítkovský, Z

1718. ČERVINKA F. and VÍTKOVSKÝ Z. Ústav. exp. a Klin. chir., Praha.
*Appendicitis při oxyuriase. Appendixitis during oxyuriasis
ROZHL. CHIR. 1954, 33/8 (406-410) Tables 3 Illus. 1

This disease is met more and more frequently. The age limit has moved. One sees it in any age group. Appendix operation is always indicated whether oxyuriasis is present or not. Oxyuriasis must be treated after operation. Among 38 cases 24 had been acute and 14 chronic appendicitis cases.

Schick - New York, N.Y. (XX, 7, 9)

VITKOWSKY, Zdenek, MUDr.; VISLOCHY, Boris, MUDr.; VULTERINOVA, Marie, MUDr.;
PLACER, Zdenek, MUDr.

Incomplete pancreatic fistula following gastrectomy. Česk.
gastroenter. 9 no.4:259-280 Dec 55.

1. Ustav pro klinickou a experimentalni chirurgii, Praha, reditel
doc. MUDr. B. Spacek Ustav pro vyzkum vyzivy lidu, Praha, reditel
doc. MUDr. J. Masek.

(PANCREAS, fistula,

incomplete, postgastrectomy)

(FISTULA,

pancreas, incomplete, postgastrectomy)

(STOMACH, surgery,

postop. pancreatic fistula, incomplete.)

POLUEKTOV, N.S.; VITKUN, R.A.

Atomic absorption flame photometric determination of cadmium. Zhur.anal.
khim. 17 no.8:935-939 N '62. (MIRA 15:12)

1. Institut of General and Inorganic Chemistry, Academy of Sciences,
Ukrainian S.S.R., Laboratories in Odessa.
(Cadmium--Analysis) (Flame photometry)

POLUEKTOV, N.S.; VITKUN, R.A.

Atomic-absorption determination of mercury by flame photometry.
Zhur. anal. khim. 18 no.1:37-42 Ja '63. (MIRA 16:4)

1. Institute of General and Inorganic Chemistry, Academy of
Sciences, Ukrainian S.S.R., Laboratories in Odessa.
(Mercury—Analysis) (Flame photometry)

POLUEKTOV, N.S.; VITKUN, R.A.

Mutual effect of elements on the intensity of radiation in a flame.
Part 3: Composition of the compounds formed during the quenching
of radiation from calcium and strontium by molybdenum, vanadium,
and titanium. Ukr. khim. zhur. 26 no.5:648-652 '60.
(MIRA 13:11)

1. Institut obshchey i neorganicheskoy khimii AN USSR.
(Calcium compounds--Spectra)
(Strontium compounds--Spectra)

POLJEKTOV, N.S.; VITKUN, R.A.; ZELYUKOVA, Yu.V.

Determination of milligamma amounts of mercury by atomic absorption
in the gaseous phase. Zhur. anal. khim. 19 no.8:937-942 '64.

(MIRA 17:11)

1. Institut obshchey i neorganicheskoy khimii AN UkrSSR, Laboratori
v Odesse.

L 6523-66 EWT(m)/EWP(j)/T/EWP(t)/EWP(b) IJP(c) JD/JG/RM
ACC NR: AP5027206 SOURCE CODE: UR/0078/65/010/011/2465/2470

AUTHOR: Kononenko, L. I.; Tishchenko, M. A.; Vitkin, R. A.; Poluektov, N. S.

ORG: None

TITLE: 1,10-phenanthroline thenoyltrifluoroacetone complexes of rare earth elements

SOURCE: Zhurnal neorganicheskoy khimii, v. 10, no. 11, 1965, 2465-2470

TOPIC TAGS: samarium compound, europium compound, lanthanum compound, neodymium compound, dysprosium compound, yttrium compound, rare earth element

ABSTRACT: The turbidimetric technique was used to study the formation of ternary complexes of rare earth elements (r.e.e.) with 1,10-phenanthroline (Phen) and thenoyltrifluoroacetone (HTTA) in water-ethanol solutions. It was shown by means of the methods of molar ratios and isomolar series that insoluble complexes are formed in which the ratio of the components Me_{r.e.e.} : Phen : HTTA = 1:1:3. These ternary complexes of lanthanum, neodymium, samarium, europium, dysprosium, and yttrium were isolated and analyzed for the content of the r.e.e., 1,10-phenanthroline, and HTTA. The general formula of the compounds was found to be Me(C₁₂H₈N₂)(O₂C₃H·CF₃·C₄H₃S)₃. It was established that the ternary complexes of

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UDC: 546.65:541.49

0901 1740

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ACC NR: AP5027206

samarium and europium exhibit a bright fluorescence, much brighter than that of simple thenoyltrifluoroacetones, when irradiated with long-wave ultraviolet light. The spectrum of the $5D_0 - 7F_2$ band of europium in the ternary complex differs from the fluorescence spectrum of simple europium thenoyltrifluoroacetate. Orig. art. has: 7 figures and 1 table. [08]

SUB CODE: IC/ SUBM DATE: 13Apr64/ ORIG REF: 006/ OTH REF: 002/ ATD PRESS: 4140

DW
Card 2/2

OVCHAR, I.A.; VITKUN, R.A.; POLUEKTOV, N.S.

Flame photometric determination of gadolinium and yttrium
using the apparatus of higher dispersion. Zhur.anal.khim. 20
no.5:554-560 '65. (MIRA 18:12)

1. Institut obshchey i neorganicheskoy khimii AN UkrSSR,
Laboratori v Odesse. Submitted March 28, 1964.

Vitkun R. A.

AUTHORS: Poluektov, N. S., Nikanova, N. P., Vitkun, R. A. 75-1-7/26

TITLE: The Determination of Sodium and Potassium in Minerals With
the Aid of Flame Spectrophotometry
(Opredeleniye natriya i kaliya v mineralakh po metodu
spektrofotometrii plameni)PERIODICAL: Zhurnal Analiticheskoy Khimii, 1958, Vol 13, pp 48-55
(USSR).ABSTRACT: In an earlier paper the authors worked out instructions for
the flame-photometric determination of lithium, rubidium and
cesium (refs. 1,2). In the flame-photometric determination of
elements in solutions the mutual influence of the elements and
the composition of the solutions have to be taken into account,
as the intensity of the radiation of the element to be investi-
gated is thereby influenced. In the present paper the authors
investigated the published data on the mutual influence of the
elements (refs. 10-16) in order to be able to work out a suitable
course of the analysis. For the determination of sodium and po-
tassium they used a flame spectrophotometer which was built upon
a universal monochromator of the type YM-2 this device is of

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The Determination of Sodium and Potassium in Minerals
With the Aid of Flame Spectrophotometry

75-1-7/26

high sensitivity and specificity for the determination of sodium and potassium. For recording radiation in sodium determination they used a photomultiplier of the type $\Phi\gamma Y-19$, in potassium determination of the type $\Phi\gamma Y-22$. The photoelectric current was measured by means of a reflecting galvanometer of the type ΦH . The atomizer and the burner for the work with an illuminating gas flame are illustrated and described.

In order to characterize the usefulness of the apparatus for the determination of sodium and potassium in the presence of other elements the authors determined the "factor of specificity" (ref. 1). This means the number indicating how many times higher the concentration of a foreign element must be in order to cause the same deflection of the galvanometer as the element to be determined at a concentration 10^{-3} g per ml. These factors of specificity are relative to the wave lengths of the radiation of the metal to be investigated (in the case of sodium $589-590 \text{ m}\mu$, in the case of potassium $760-770 \text{ m}\mu$). Results are given. Corresponding to the content of the samples of sodium and potassium (up to 10%) the conditions for a determination of sodium at concentra-

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The Determination of Sodium and Potassium in Minerals
with the Aid of Flame Spectrophotometry

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tions of up to 100 g Na per ml for illuminating-gas flames and acetylene flames were examined. A linear dependence of the radiation intensity on the concentration exists only up to 10 g Na per ml. Therefore the samples in the ranges between 10 and 100 g Na/ml are compared with 2 standard solutions the concentrations of which are similar to those of the sample. The influence of accompanying elements upon the intensity of the radiation of sodium and potassium in illuminating-gas flames and acetylene flames was investigated. Based on these investigations conditions for the determinations of these metals with a higher accuracy were found.

By the determination of potassium it was found that the degree of the ionization of potassium is decisive for the intensity of radiation. The concentration of the ionized potassium atoms is obtained from the equation:

$$\frac{[K^+][e^-]}{[K]} = \text{const.}$$

Card 3/5 where $[K]$, $[K^+]$ and $[e^-]$ are the concentrations of the potassium

The Determination of Sodium and Potassium in Minerals
with the Aid of Flame Spectrophotometry

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atoms, potassium ions and the electrons in the flame. Based on this equation the following rules governing the mutual intensification of the radiation intensity in alkali metals are obtained: Metals easy to ionize (rubidium, cesium) cause a higher effect than metals worse to ionize (lithium), as they more intensively disturb the equilibrium by a high increase in the concentration of the electrons. 2. The intensifying action of other metals is highest at low concentrations of potassium, because a comparatively large portion of potassium atoms is ionized then. 3. The intensification of the radiation of potassium on addition of another metal in increasing concentrations tends toward a limit which is given by the complete ionization of potassium and which is the faster attained the lower the ionization potential of the added metal. 4. The intensification effect of radiation is higher in flames in which a larger part of the atoms is ionized. This is the case in flames with very high temperatures. On the basis of these investigations instructions for the determination of sodium and potassium in minerals were worked out which are accurately given here. The method permits the determination of contents of every individual alkali metal from 0.1-8.0% with an accuracy of $\pm 3\%$.

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The Determination of Sodium and Potassium in Minerals
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There are 5 figures, 6 tables, and 16 references, 2 of which
are Slavic.

ASSOCIATION: Institute of General and Inorganic Chemistry, Academy of
Sciences of the Ukrainian SSR, Laboratories in Odessa
(Russian Text not Given)

SUBMITTED: December 17, 1956.

AVAILABLE: Library of Congress.

1. Sodium - Determination
2. Potassium - Determination
3. Flame spectrophotometers - Applications

Card 5/5

VITKUN, R. A.

The Second All-Union Conference on the Preparation and Analysis of High-Purity Elements, held on 24-28 December 1963 at Gorky State University im. N. I. Lobachevskiy, was sponsored by the Institute of Chemistry of the Gorky State University, the Physicochemical and Technological Department for Inorganic Materials of the Academy of Sciences USSR, and the Gorky Section of the All-Union Chemical Society im. D. I. Mendeleyev. The opening address was made by Academician N. M. Zhavoronkov. Some 90 papers were presented, among them the following:

L. I. Kononenko, R. A. Vitkun, and N. S. Poluektov. Fluorescence determination of Eu microimpurities in rare-earth elements.

(Zhur. fiz.-khim., 19 No 6, 1964 (p. 777-9))

POLUTEKTOV, N.S.; VITKUN, R.A.

Increase of the radiation intensity of metals in a flame as a
result of the quenching of ionization. Zhur.anal.khim. 16
no.3:260-267 My-Je '61. (MIRA 14:6)

1. Institut obshchey i neorganicheskoy khimii AN USSR, Laboratorii
v Odesse.

(Alkali metals--Spectra)

ACCESSION NR: AP4042981

S/0051/64/017/001/0073/0077

AUTHORS: Poluektov, N. S.; Kononenko, L. I.; Vitkun, R. A.;
Nikonova, M. P.

TITLE: Quenching of luminescence of europium in intra-complex
compounds in the presence of other rare-earth elements

SOURCE: Optika i spektroskopiya, v. 17, no. 1, 1964, 73-77

TOPIC TAGS: europium, luminescence quenching, rare earth element,
energy level, spectrum analysis

ABSTRACT: With an aim at its possible application to analysis, a
study was made of the effect of extraneous rare earth elements on
the glow intensity I_{Eu} of europium in precipitates of mixed phenan-
throline-atriphane and phenanthroline-tenoiltrifluoroacetone complex-
es. The experimental procedure is described. A correlation was es-
tablished between $\log I_{Eu}$ and the difference between the energy of

1/2

ACCESSION NR: AP4042981

the triplet state of the molecule of the complex and the nearest lower energy level of the extraneous rare-earth ion. In benzene solutions of the same complexes, in which molecules of Eu compounds and other rare-earth element compounds enter separately, there is no influence of the rare-earth ions on I_{Eu} . It is suggested on the basis of the results that the sensitivity of rare-earth element analysis methods based on the measurement of the fluorescence of precipitates of complex compounds will depend to a considerable degree on the extraneous rare-earth elements present. Orig. art. has: 6 figures.

ASSOCIATION: None

SUBMITTED: 06Oct63

ENCL: 00

SUB CODE: OP, IC

NR REF SOV: 004

OTHER: 007

2/2

ACCESSION NR: AP4040757

S/0073/64/030/006/0629/0635

AUTHOR: Poluektov, N. S. ; Vitkun, R. A. ; Kononenko, L. I.

TITLE: Determination of europium in microquantities by fluorescence

SOURCE: Ukrainskiy khimicheskiy zhurnal, v. 30, no. 6, 1964, 629-635

TOPIC TAGS: europium fluorescence, europium determination europium complex, europium, microquantity, fluorescence, fluorescence intensity, measurement

ABSTRACT: This work was prompted by the complexity of conventional fluorescent methods of detecting europium requiring special phosphoroscopes, preparation of samples by calcination or melting, and complex spectrographic technology. The authors developed a sensitive method for determining microquantities of europium by measuring the fluorescence intensity of a phenanthroline-atophan complex of rare earths in suspension. This complex cation $(\text{MePhen}_2)_3^+$ forms difficultly soluble salts with some acid anions. In presence of europium in the complex, bright fluorescence in the UV light of mercury lamp is observed. This method permits the determination of

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ACCESSION NR: AP4040757

0.001 -0.2 γ Eu₂O₃ in 5 ml solution depending upon the nature of the admixtures. The greatest sensitivity is achieved in the presence of La, Gd, Tb and Y where the presence of Eu can be found when its content amounts to 10-10⁻⁴%. Sensitivity of Eu₂O₃ determination in other rare earths amounts to 0.02-0.1%. Determinations were made with the aid of the ISP-51 spectrograph with photoelectric attachment FEP-1. Illumination was by SVD-120A mercury lamp with a quartz condenser. Typical for Eu spectrum is a peak of 612 μ. Optimum pH = 6-7. Orig. art. has: 8 figures, 1 formula, 3 tables.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii AN UkrSSR, Laboratoriya v Odesse (Institute of General and Inorganic Chemistry, AN UkrSSR)

SUBMITTED: 18May63

ENCL: 00

SUB CODE: IQ

NR REF SOV: 009

OTHER: 002

Card 2/2

L 32955-66 EWP(j)/EWT(m)/EWP(t)/ETI IJP(c) RM/JD/JG

ACC NR: AP6015743

SOURCE CODE: UR/0073/66/032/005/0508/0513

AUTHOR: Tishchenko, M. A.; Kononenko, L. I.; Vitkun, R. A.; Poluektov, N. S.

43

ORG: Odessa Laboratories, Institute of General and Inorganic Chemistry AN UkrSSR
(Laboratoriï v Odesse Instituta obshchey i neorganicheskoy khimii AN UkrSSR)

B

17

TITLE: Use of pyrazolone derivatives for fluorometric determination of dysprosium

SOURCE: Ukrainskiy khimicheskiy zhurnal, v. 32, no. 5, 1966, 508-513

TOPIC TAGS: dysprosium, spectrum determination, rare earth, fluorescence spectrum, nonmetallic organic derivative, terbium

ABSTRACT: The authors study the feasibility of using phenyl-3-methylpyrazolone-5¹ (PMP) and tolyl-3-methylpyrazolone-5 (TMP) to replace 4-sulfophenyl-3-methylpyrazolone-5 (SPMP) for fluorometric determination of dysprosium in oxides of other rare-earth elements. The usefulness of SPMP for determining dysprosium in the presence of terbium is limited due to partial superposition of the fluorescence bands as well as by the bright fluorescence of trivalent terbium ions. The structural formulas of the three compounds are shown in the figure. The reagents were used in the form of a 2.5% solution in ethanol. The fluorescence spectrum for complex compounds of Dy and Tb with the tolyl derivative show three bright bands in the visible region for the Tb complex with maxima at 488-497.5, 543-546 and 580 μm and two bands for the Dy complex with

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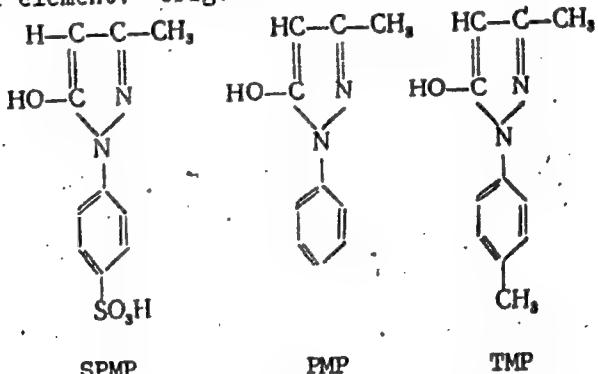
UDC: 543.426-4:546.664

L 32955-66

ACC NR: AP6015743

0

maxima at 482.5-487.5 and 573 μm . The best bands for quantitative identification are at 573 μm for Dy and at 543-546 μm for Tb. Experiments were conducted to determine the effect of various factors on the luminescence intensity of a complex compound of Dy with PMP and TMP. The greatest relative luminescence intensity was observed in a solution with a pH of 6-7 with 5 mg of reagent in a total volume of 10 ml, allowing the solution to stand for 40 minutes after adding the reagents. The method developed for fluorescence determination of dysprosium may be used for identification of this element in mixtures of rare-earth oxides with a sensitivity of 0.005-0.1% Dy_2O_3 depending on the nature of the basic element. Orig. art. has: 8 figures.



SUB CODE: 07 SUBM DATE: 04Sep64/ ORIG REF: 006/ OTH REF: 002

Card 2/2 *LafB*

ACTIVITIES OF THE ASSASSINATE
PERSONNEL
SOURCE: Zhurnal analiticheskikh issledovanii
TAKIYE RAYLIBOV, VIKTOR, FEDOROVICH, VASILY
ABDUR

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LITERATURE AND THEATRE

OTUFB, 014

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001860120012-0"

POLJEKTOV, N.S.; VITKUN, R.A.; OVCHAR, L.A.

Relation between radiation intensity and the concentration of
18 elements in the flame-photometric method of analysis.
Zhur.anal.khim. 15 no.3:264-271 My-Je '60.
(MIRA 13:7)

1. Institute of General and Inorganic Chemistry, Academy of
Sciences, Ukrainian S.S.R., Laboratories in Odessa.
(Flame photometry)

VITKUN, R.A.

POLUBKOV, N.S.; NIKONOV, M.P.; VITKUN, R.A.

Determination of sodium and potassium by means of flame spectro-
photometry [with summary in English]. Zhur. anal. khim. 13 no.1:
48-55 Ja-F '58. (MIRA 11:4)

1. Institut obshchey i neorganicheskoy khimii AN USSR, Odessa.
(Sodium--Spectra) (Potassium--Spectra) (Spectrophotometry)